WHAT IS CLAIMED IS:

1. A micromechanical switch comprising:

a substrate;

at least one pair of support members fixed to the substrate;

at least one pair of beam members placed in proximity and parallel to each other above the substrate, and connected to one of the support members, respectively, each of the beam members having a moving portion which is movable with a gap with respect to the substrate, and a contact portion provided on the moving portion; and

a driving electrode placed on the substrate between the pair of beam members to attract the moving portions of the beam members in a direction parallel to the substrate with electrostatic force so that the contact portions of the beam members which are opposed to each other are short-circuited.

2. The mechanical switch according to claim 1, wherein the beam members are each formed as a stacked structure of a polysilicon layer and a metal or metal compound layer.

3. The mechanical switch according to claim 1, wherein the beam members are connected at both ends thereof to the support members.

4. The mechanical switch according to claim 1, wherein the support members are integrally formed with

the beam members, respectively.

5. The mechanical switch according to claim 1, wherein the contact portion has at least one opening.

6. The mechanical switch according to claim 1, wherein each of the beam portions is fixed at one end to one of the support members, and made open at the other end, which is the contact portion.

7. The mechanical switch according to claim 1, further comprising insulating layers interposed between the support members and the substrate, the support members being fixed to the substrate through the insulating layers.

8. The mechanical switch according to claim 1, further comprising MOSFETs each having a source layer and a drain layer formed in the substrate, and wherein the driving electrode is formed on one of the source layer and the drain layer.

9. A vibrator filter comprising:

a substrate;

an input terminal electrode and an output terminal electrode formed on the substrate with a predetermined spacing therebetween and each having a side face; and

a vibrator formed on the substrate between the input terminal electrode and the output terminal electrode, the vibrator having a moving portion with at least two side faces one of which is opposed to the side face of the input terminal electrode and another

of which is opposed to the side face of the output terminal electrode, with a small gap respectively, and a pillar fixed to the substrate to support the moving portion.

10. The vibrator filter according to claim 9, wherein each of the input terminal electrode, the output terminal electrode and the moving portion is formed of a polysilicon layer which is patterned into a rectangular shape and the pillar is divided into a plurality of sub-pillars to support the moving portion.

11. The vibrator filter according to claim 9, wherein a vibrating frequency is in inverse proportion to $l^{3/2}$ wherein l is a length of the pillar.

12. The vibrator filter according to claim 9, wherein a vibrating frequency is in inverse proportion to $h^{1/2}$ wherein h is a thickness of a moving portion.

13. A method of manufacturing a micromechanical switch comprising:

forming a sacrificial layer over a surface of a substrate;

forming a polysilicon layer on the sacrificial layer;

selectively etching the polysilicon layer to form a pair of beam members placed in proximity to each other and a driving electrode placed between the beam members, each of the beam members having a fixing portion configured to fix at least one end thereof to

the substrate and a moving portion extending from the fixing portion;

forming a metal or metal compound layer so as to cover the beam members and the driving electrode;

selectively etching the metal or metal compound layer so that the metal or metal compound layer is left on the beam members and the driving electrode; and

etching away the sacrificial layer existing at least under the moving portion of each of the beam members.

14. The method according to claim 13, wherein the forming of the beam members and the driving electrode includes forming at least one opening in a portion of each of the beam members which reaches the sacrificial layer.

15. The method according to claim 13, between the etching of the metal or metal compound layer and the etching away of the sacrificial layer, further comprising etching the metal or metal compound layer and the beam members to form at least one opening reaching the sacrificial layer.

16. The method according to claim 13, wherein the etching away of the sacrificial layer includes etching the sacrificial layer under the moving portions through the at least one opening formed in the metal or metal compound layer and the beam members.

17. A method of manufacturing a vibrator filter

comprising:

forming a sacrificial layer over a surface of a substrate to have a first, a second and a third opening;

depositing a conductor layer on the sacrificial layer;

patterning the conductor layer to form an input terminal electrode, an output terminal electrode, and a vibrator having a moving portion with at least two side faces and a pillar, the input terminal electrode and the output terminal electrode being placed with a predetermined spacing therebetween and fixed to the substrate through the first and the second opening, and the vibrator being placed between the input terminal electrode and the output terminal electrode so that one of the side faces of the moving portion is opposed to a side of the input terminal electrode and another of the side face is opposed to a side of the output terminal electrode, with a small gap respectively, and is held above the substrate by the pillar formed in the third opening; and

removing the sacrificial layer.

18. The method according to claim 17, the depositing a conductive layer includes depositing at least one material selected from the group consisting of polysilicon, metal and metal compound.

19. The method according to claim 17, the

patterning the conductive layer includes patterning the input terminal electrode, the output terminal electrode and the moving portion in a shape of rectangle.

20. The method according to claim 17, wherein the pillar is formed of a plurality of sub-pillars.